

The educative role of a regional newspaper: Learning to be drier

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Throughout the world, people have to deal with the issues of global warming and other more direct consequences of environmental change. This paper considers how a local newspaper has an educative function in a small community in advising people of specific issues and learning how to deal with changing resources. Across the period of several months in 2009, the Buloke Times, a local newspaper in the Wimmera-Mallee region of Victoria, Australia, was scanned for articles relating to the issue of water scarcity. In the 24 editions of the paper, 68 articles of various themes were found. The articles/themes were analysed along a number of lines: frequency across time, frequency within each issue, prominence of articles and unusual events. This research paper develops an overview of the role of the newspaper and its capacity to influence and educate the people who constitute its readership.

Key words: adult education, rural education, water scarcity, community newspapers

Introduction

Across the globe, governments, institutions, business enterprises and ordinary people are struggling to comprehend and manage the impact of global warming. How do people in rural areas develop understanding of issues which may affect them, either directly (as in a drought) or indirectly (as a global citizen)? Australia is only one country which is affected by drier conditions in many ways, but the issue of water availability has been impacting strongly in Victoria, particularly in the Wimmera-Mallee region. Traditionally, this area has been reliant on rainfall and the delivery of water from the catchment areas via open channels. However, a 'drought', lasting for 13 years, caused members of the small rural communities in this region to re-think the way they managed their water supplies, both in their farming practices and in their daily life.

This paper reports on an analysis of a regional newspaper's coverage of the drought and ways of coping with it, during the early part of 2009. The research was part of a larger project which examined the nature of 'learning to be drier' in four case study areas within Australia's Murray-Darling basin (Golding et al. 2009). In each case study, a number of participants were interviewed including suppliers of water, farmers, community centre workers, agronomists and education providers. The Wimmera-Mallee area was an area which had always had limited water availability, relying primarily on precipitation rather than irrigation. The case study of the region (Smith & Campbell 2009) showed that a range of 'learning to be drier' strategies were utilised, including individual learning from newspapers.

It was decided to supplement the qualitative fieldwork with an analysis of the local newspaper's coverage findings of the newspaper analysis during the period of the fieldwork. Accordingly, three months' issues of the twice-weekly paper, the *Buloke Times*, were

analysed to investigate how the paper covered the issue of drought and coping with it, and what contribution the newspaper might make to people's learning about the issue.

Thankfully, a prolonged period of rainfall during 2010 ended immediate drought conditions in the Wimmera-Mallee, which has traditionally been a 'wheat and sheep' region. In the nature of Australian climatic extremes, this period created its own difficulties for the farmers and other residents of the region, causing flooding, a locust plague and a downgrading of the quality of the wheat crop. Despite these difficulties, the rain was extremely welcome, prompting front-page headlines in the *Buloke Times* such as 'Jumping for joy in the rain' (13 August 2010) and 'All the rivers run' (20 August 2010). Nevertheless, long-term climate predictions indicate that drier weather is now the norm, leaving this paper still extremely relevant for the region, for other farming regions in Australia and for other countries.

Background and literature review

There are many ways in which adults access new learning, both formally and informally. Rural communities have their own patterns of learning (Kilpatrick, Falk & Harrison 1998). Most local rural communities have a community centre, an adult learning centre, local gardening groups, agronomists and schools. Each of these particular groups provides opportunities for residents to talk about and share ideas regarding local issues, in this instance—the drought. The fieldwork for the research project (Smith & Campbell 2009) showed that community centres run special interest sessions; adult learning centres provide specific skill-based training; local gardening groups share information and consult 'experts' in the field; agronomists use the internet plus industry research to inform their specialism, and schools provide information to students and indirectly through

to families within the communities. Newspapers also play a role in educating their readerships about current issues at local, regional, national and international levels.

How can adult learning theory inform our understanding of the use of newspapers for learning? It has been argued that adult learners construct their own understanding and knowledge based on their experiences (Merriam & Caffarella 1998: 262). People also learn through their social networks with others (social constructivism) (Carlson & Maxa 1998). The theory of constructivism acknowledges the importance of prior understandings and experiences in the construction of new meanings (Doolittle & Camp 1999: 15). According to Knowles, Holton and Swanson (1998), in the learning process adults want to learn about topics relevant to themselves and utilise previous knowledge to create understandings. It might be expected, then, that they would look through newspapers to learn about topics of importance to themselves and focus on articles which are about issues familiar to them but which take their understanding further.

Adult learning in small communities has particular characteristics (Golding et al. 2009: 562), such as community-based, adult learning organisations, local networks and interactions, and individual learning—there is little learning through formal institutions and mechanisms. This could be expected to mean that learning from newspapers is a little different in a rural community from a metropolitan community. Communities are essentially bound by physical locations, particularly in remote or rural areas. Communities of people may be those in one town who have tight physical boundaries and are interested in the people who are their neighbours. Within this local nexus of people, a sense of belonging, as well as the geographical location, also provides the overall definition of community. Community can be seen as a place of human interaction or ‘interconnected relationships among people’ (Kurpius 2000: 340)

or, as stated by Jeffres, Atkin and Neuendorf (2002: 391), 'overlapping systems that include a communication network and social structure'. In smaller communities, therefore, social networks are likely to play an increasingly important role in the learning process. Community connections are important in terms of what is known, how much is known and the particular influence of some people on others. There might be expected to be a heavy reliance on material generated by or through the community.

The local newspaper provides information on a range of events which may be local, regional, national and international in nature. In its most basic form, then, a newspaper can be said to be a distributor of information. However, research has indicated that a newspaper is more than just a printed description of some event (Holder & Treno 1997). The content of a newspaper reflects the social reality of its context, mirroring what is actually happening in the society within which it is produced. At a social level, it can represent the things which a community holds as most important. Equally important is the fact that a newspaper, written by humans, is a construction of reality as determined by the writer. This implies that human biases, empathies and opinions can deliberately, or inadvertently, enter into the fabric of the article.

Some research indicates that newspapers can act as brokers of power, negotiating who is to be empowered and who is not (Olien, Donohue & Tichenor 1995). A community can be said to be a dynamic interplay of people: some are on the periphery looking in, while others are the power-brokers of the community, forming groups and guiding decisions within the community. Community media can help illustrate these distinctions (Mosco 1998), highlighting the strength of particular groups within the community as well as disenfranchising others. Further research into the effect of media on communities (Demers & Viswanath 1999) showed how social power structures

shape the media's capacity to foster social change and interestingly how local journalists often frame articles in ways that reflect traditional power structures (Cohen 2000, Sakamoto 1999).

Moses (2007: 153) states that 'the media have the function of informing the democratic citizenry on matters that are in the public interest', and maintains that newspapers should show every side of an issue. She gives the example of changing public attitudes to racial inequality in the USA which writers attributed partly to the role of the media (Moses 2007: 161). This view of the media implies that a local newspaper has a duty to inform its readers about important matters and to provide alternative viewpoints about these matters.

However, in any discussion of the role of media in education, it is important to remember that not all people learn in the same way from newspapers. Grabe, Kamhawi and Yegyan (2009) in an experimental study found that people with higher levels of education learned more from newspaper articles, even though those with lower education levels were just as interested in the topics. They ascribed this basically to the extra years of practice, among people with greater education levels, in extracting information from written documents. Fleming, Thorson and Zhang (2006) likewise found that people's individual information processing strategies have an effect on the extent and nature of learning from newspapers, which is also affected by other factors such as gender and ethnicity, and individuals' attention to other media outlets. Marx, Nedelmann, Haertle, Dietrich and Eicke (2008), in a study in the health education area, caution that although educational campaigns through newspapers and other media increase awareness, they do not necessarily lead to a change in behaviour. They found that people with lower education levels learned most from information disseminated through a range of channels that used 'short-tailored slogans' (Marx et al. 2008: 378) such as 'Praise for GMW Water' or 'restriction levels eased'. These studies of the

educative role of newspapers suggest that newspapers form only one route for raising awareness of issues among the public and that they are more useful in educating certain sectors of the population than others.

How important has the issue of drought, and coping with it, been to the Wimmera-Mallee? There is no doubt that the Wimmera-Mallee region has suffered through an extended drought. In the ten years to 2008, average rainfall fell by 13% whilst maximum temperatures increased by 0.7%, with more summer days reaching over 30 degrees centigrade (Victorian Government Department of Sustainability and Environment 2008). Although a short-term improvement was predicted, it has also been predicted (BCG 2008) that in the long term there will continue to be low levels of rainfall. The severity of the drought has meant that, in some years and some parts of the region, there have been no, or severely reduced wheat crops; on average, crop levels are expected to be about 18% lower in the future than they were prior to the beginning of the drought (BCG 2008). The farming community has had to make changes to the way it does things.

Adaptations include: changing the crops grown, changes in varieties of crops, changing farming techniques and sowing strategies, and using different high technological machinery for more precise farming (BCG 2008, Schultz 2001). More generally, the CSIRO Technical Report (2007) indicates that there are a number of climatic changes which will occur: annual warming leading to an increased number of warm days and nights; less precipitation including rainfall runoff; increased likelihood of drought; and increased severity of droughts. CSIRO (2007) predicts that life, property and ecosystems will be at increased risk. Clearly this is a serious situation and it is important to consider how local institutions such as newspapers may contribute to changes in human behaviour that could ameliorate the effects of drought.

The case study in the Wimmera-Mallee, previously mentioned, proposed a hierarchy (Smith & Campbell 2009: 537) of 'learning to be drier' methods, from the most informal to the most formal (Marsick & Watkins 1990):

- feedback on actions, e.g. planting a new variety of crop or garden plant
- individual learning through the receipt of provided information (e.g. from the water authority, from one's children's school, the local newspaper or magazines produced by agricultural suppliers) or from seeking information via the internet
- talking informally 'over the fence' (back gardens) or 'through the fence' (farms) to neighbours
- attending a community activity specifically on water issues or via another group, e.g. gardening group or Country Fire Association meeting
- if a farmer, joining a farmers' development group and/or employing an agronomist, both of which sources were able to collect and filter information and pass it on
- enrolling in a course (from a short skill-focused program through to a qualification).

Methodology

Across the three months of 3 February to 1 May 2009, the *Buloke Times* was scanned for articles relating to the issue of drought and coping with drier conditions. The newspaper is produced twice-weekly and typically is between 16 and 20 pages in length. There were 24 editions of the paper in the study, in which 68 relevant articles were found.

The *Buloke Times* was selected for the study as, among the available local newspapers, it was the only one which reported only on the local area (the Buloke Shire) rather than covering a larger region,

and/or including more general rural ‘inserts’. In viewing the *Buloke Times*, we drew on the well-established research methodology of content analysis. Content analysis has been described by many researchers in somewhat different ways, but Kerlinger’s (1986) definition (in Wimmer & Dominick 2000: 135) seems to be widely accepted: ‘content analysis is a method of studying and analysing communication in a systematic, objective and quantitative manner for the purpose of studying variables’. Content analysis is therefore the method we used to assess media content trends in the local *Buloke Times*. The study provides baseline data to see if the framing of climate change issues shifts and changes across the three-month period of the analysis. While it is a form of content analysis, it is not a sophisticated form. In terms of the ‘uses of content analysis’ (Wimmer & Dominick 2000: 136–137), we are using the technique in a traditional and descriptive manner. It is, however, partly being used to infer societal values about the issue of a drier climate. If we are to be rigorous with our analysis, we need to address a number of questions suggested by Krippendorff (2004). Figure 1 shows these questions and the responses for this study.

Which data are analyzed?

Specific newspaper articles, public notices

How are they defined?

They are easily defined by the content which must include some reference to water scarcity.

The article headings may not necessarily refer to water change.

What is the population from which they are drawn?

The population which accesses and reads the *Buloke Times* came from a regional area of approximately

50kms around the township of Wycheproof in the Wimmera-Mallee Region of Victoria.

What is the context relative to which the data are analyzed?

The data are analysed across a number of contexts. Initially the articles are read and classified into a number of themes. These themed articles are analysed according to their frequency across the time of the investigation, according to their frequency within each issue, the prominence of articles (e.g. where they sit in the newspaper) and any unusual occurrences (e.g. newspaper issues without any articles).

What are the boundaries of the analysis?

The analysis is bounded in time and strictly to the articles extracted from the newspapers within that three month period.

What is the target of the inferences?

The target relates back to our original question—how the paper covered the issue and what contribution the newspaper might make to people's learning about the issue.

[After Krippendorff 2004]

Figure 1: Issues addressed within data analysis

From 3 February to 1 May 2009, each issue of the *Buloke Times* was scanned for articles on water issues or scarcity. The content of the articles related to the water scarcity issue, but the article heading did not necessary have to contain words illustrative of the issue. Classifieds, sport-related stories, advertisements and television guides were excluded from the collection. We sampled every edition of the newspaper in the specific time period. This is a census (Riffe, Lacy & Fico 1998), taking count of articles in context—except that we have focused only on certain content. A census is the best method (rather than taking, for example, one edition every month) with a relatively small amount of content, and avoids distortion of results. The time period (February to April 2009) was chosen as it covers the period just prior to fieldwork and therefore may have had some bearing on our participants' responses (see Smith & Campbell 2009 for a report on the fieldwork). To align our method more closely with an actual census (i.e. of all content), we counted the number of articles related to water scarcity as a proportion of the total newspaper content. We also located each story within the newspaper to ascertain its 'prominence' (e.g. page number, place on page) (Riffe et al. 1998: 132). We were aware that a simple counting or tallying approach could be regarded as superficial and reveal little about the actual value of water scarcity to the community of readership (Riffe et al. 1998: 36) of the *Buloke Times*, which is why we looked at the prominence and content of articles.

The articles collected were then further grouped into a number of categories or themes. We have done this on a simple 'grouping basis' where the recorded units 'share common attributes' (Riffe et al. 1998: 86). We could have chosen more complex categorisation, for example, 'hierarchical allocation', but as all of our selections come under one major theme of water issues/scarcity, this did not seem relevant.

Our selected themes for articles were:

- reports of educative events—events which intended to ‘educate’
- educative—articles which tell people ‘how to’ do certain activities (i.e. directly instructional or didactic)
- outcome—reporting on the progress of a water-related initiative or program
- political or regulatory—reports on political issues or regulations relating to coping with drier conditions
- miscellaneous—all other articles with relevance to water scarcity/drier conditions.

The articles were analysed on the basis of type, frequency, prominence and clustering.

Findings

The data collected are represented within two tables which summarise the trends we found as we counted the number of articles related to water scarcity. Table 1 is a raw tally which reports the number of each category of article related to the date of the newspaper across the three designated months. The shading refers to ‘clumping’ of some themes across time.

Table 1: Raw tally of articles, grouped by themes against date of issue

Date of the <i>Buloke Times</i> newspaper release	Reports of educative events	Educative	Outcome	Political/ regulatory	Miscellaneous	Total	Trends
3 February			2			2	32 articles across February (7 issues)
6 February		1	1	2		4	
10 February	1	2	1	1	2	7	
13 February	2		2		1	5	
17 February		3	2		2	7	
24 February			1		1	2	
27 February	1	3			1	5	

Date of the <i>Buloke Times</i> newspaper release	Reports of educative events	Educative	Outcome	Political/ regulatory	Miscellaneous	Total	Trends
3 March		1	1		1	3	16 articles across March
6 March		1				1	(9 issues)
11 March					1	1	
13 March				1	1	2	
17 March	2	1			1	4	
20 March	2	1	1			4	
24 March						No articles	
27 March			1			1	
31 March						No articles	

Date of the <i>Buloke Times</i> newspaper release	Reports of educative events	Educative	Outcome	Political/ regulatory	Miscellaneous	Total	Trends
3 April			2		1	3	17 articles across April
7 April		1				1	(7 issues)
9 April				1		1	
17 April	1		3	1		5	
21 April	2	1				3	
24 April	2		1			3	
28 April	1					1	
1 May		1	1		1	3	3
Total	14	16	19	6	13	68	
% (rounded)	20.5	23.5	28	9	19	100	

Table 2 shows the location of each story within each edition of the newspaper—that is, its ‘prominence’. The table also provides information on the total number of articles within the dated edition, both as raw scores and as a percentage of total articles, again providing some evidence of the importance of the issue of water scarcity at that particular instance in time.

Table 2: Overview of articles relating to relative importance and prominence

Issue 2009	Number of articles [†]	Percentage of coverage	Story prominence (location)*	Article theme
Tuesday 3 February	2 from 27	7.4	p.9, p.12	Outcome
Friday 6 February	4 from 19	21	p.6 –p.13	Varied: Political/ regulatory; Outcome ; Educative; Political/ regulatory
Tuesday 10 February	7 from 12	58	p.2–p.16	Varied: Miscellaneous; Reports of educative events; Outcome; Educative; Political/ regulatory
Friday 13 February	5 from 19	26	p.2–p.11	Varied: Reports of educative events; Outcome; Miscellaneous
Tuesday 17 February	7 from 14	50	p.1–p.12	Varied: Outcome; Educative; Miscellaneous
Friday 20 February	0 from 20	-	n/a	n/a
Tuesday 24 February	2 from 17	11.8	p.9	Outcome ; Miscellaneous

Issue 2009	Number of articles [†]	Percentage of coverage	Story prominence (location)*	Article theme
Friday 27 February	5 from 21	23.8	p.1–p.10	Varied: Educative; Miscellaneous; Reports of educative events
Tuesday 3 March	3 from 18	16.6	p.7–p.15	Varied: Educative; Miscellaneous; Outcome
Friday 6 March	1 from 22	4.5	Article 1: p.12	Article 1: Educative
Wednesday 11 March	1 from 28	3.6	p.9	Miscellaneous
Friday 13 March	2 from 14	14.2	p.6–p.7	Political/ regulatory; Miscellaneous
Tuesday 17 March	3 from 14	21.4	p.2–p.11	Reports of educative events Miscellaneous; Educative
Friday 20 March	4 from 16	25	p.1–p.11	Reports of educative events; Educative; Outcome
Tuesday 24 March	0 from 22	-	N/A	n/a
Friday 27 March	1 from 23	4.3	p.2	Outcome
Tuesday 31 March	0 from 33	-	N/A	n/a
Friday 3 April	3 from 33	9	p.2–p.19	Outcome; Miscellaneous
Tuesday 7 April	1 from 25	4	p.13	Educative
Thursday 9 April	1 from 21	4.8	p.11	Political/ regulatory

Issue 2009	Number of articles [†]	Percentage of coverage	Story prominence (location)*	Article theme
Friday 17 April	5 from 34	14.7	p.1–p.12	Political/regulatory; Reports of educative events; Outcome
Tuesday 21 April	3 from 22	13.6	p.10–p.15	Educative ; Reports of educative events
Friday 24 April	3 from 16	18.8	p.1–p.9	Outcome; Reports of educative events
Tuesday 28 April	1 from 28	3.6	p.10	Reports of educative events
Friday 1 May	3 from 16	18.8	p.1–p.9	Educative; Outcome; Miscellaneous

[†] Articles excluded from count were classifieds, sport-related stories, advertisements and television guides

* Story prominence was based on a model suggested by Riffe et al. (1998)

Table 1 shows that the largest category of relevant articles (28%) was related to reporting on the progress of an initiative or program (outcome theme). The next most prominent type of article (23.5%) was the ‘educative theme’ which assisted readers to understand ‘how to’ accomplish some task or other. The themes of ‘reports of educative events’ or ‘miscellaneous’ followed closely in terms of commonality and the ‘political or regulatory’ themed articles represented less than 10% of the total number of relevant articles.

Across the three months, there were 32 articles relating to water scarcity and drier conditions in the seven issues in February (Table 1). This averages out at about four to five articles per edition, or to use percentage proportion, 23% of all newspaper articles across February related to the theme of water issues/scarcity (Table 2) (with peaks of 58% and 50% in the editions of 10 February and 17 February). In March, the number of articles dropped dramatically to 16 articles in

the 9 issues—fewer than 2 articles per edition, or proportionally 8% of total coverage. The other interesting observation is that two issues in March contain no articles of water scarcity at all. In April, there were 17 articles across 7 issues, averaging two to three articles per newspaper issue, proportionally 11% of all newspaper articles related to water issues or scarcity.

If we consider the ‘clumping’ trends, we notice, not unsurprisingly, that educative, outcome and miscellaneous themes were clumped mostly around February which also was the month when most articles were incorporated in the newspaper. However, there was a similar, but less strong, clumping of ‘reports of educative events’ articles in the latter part of April.

The other data to study from this table are the ‘prominent’ articles which feature on page one. Using location as an indication of the importance of the article, eight of the 68 articles on water issues/scarcity were found on the first page. Four of these articles ran across both pages one and two, but the rest were contained within the first page. The articles were fairly evenly spread across the themes: reports of educative events theme (2), educative theme (2), outcome theme (2), political/regulatory theme (1) and miscellaneous theme (1).

Table 3 provides an example of one prominent article in each theme.

Table 3: Examples of articles from each theme, which had significant prominence (page one)

Date & type of article	Article heading and description
Reports of educative events	<p>Capturing rain in bucketsful</p> <p>This article describes a workshop presented by a CSIRO staff member as part of the ongoing program 'Healthy Soils Workshops' by the farmers' development group. The presenter spoke about water use efficiency and its increasing importance in farming systems. Another CSIRO staff member also discussed aspects of soil cover, tillage and compaction in terms of water use efficiency and crop growth.</p>
Educative	<p>Water use challenge</p> <p>This article describes a challenge set forth by the local water authority, in which individuals are asked to work out how much water they use per day and try to reduce it. The article describes how to calculate water usage and then provides examples of how water usage could be reduced. The article also provides information on the water rebate.</p>
Outcome	<p>Excitement builds at Birchip</p> <p>This article relates to a previous one which indicated that Lake Tchum would soon be filled. It provided information about the ongoing work of the Birchip Aquatic Club to improve and prepare the lake for water. Pictures accompanied the article showing various scenes of the working bee in action.</p>
Political/regulatory	<p>Tchum Lake back in business</p> <p>This article discusses the supply of channel water to two local lakes (Tchum Lake and Green Lake). Both lakes are used for recreational purposes. The water authority indicated that the entitlement would not be required for towns or rural customers. The Tchum Lake Aquatic Club committee president provided comment on the benefits to the community.</p>
Miscellaneous	<p>Water, water everywhere</p> <p>This article reports on a meeting of the Donald History and Natural History Society where members gave a presentation of historical times when the district had plenty of water. A photograph of floods in a Donald street illustrates the article.</p>

These articles are varied in nature, with the two articles about Lake Tchum, a small recreational lake just outside Birchip, one of the towns in the region, illustrating the importance of visible bodies of water to the communities.

Discussion

Table 1 clearly shows that around a quarter of the items are about reporting on outcomes, and about a quarter are directly educative, providing information for readers to act on. These types of article may be considered to 'keep up morale', important in a region heavily affected by drought. The reporting of an outcome for any project or action would be considered a positive thing and could produce an optimistic response from the readership. Similarly, an educative article could also provide a sense of efficacy as it implies the possibility for 'action' or a movement in a positive direction. Reports of educative events/articles feature for one-fifth of the time. These may be seen as attempts to alert the community to further learning opportunities in the important area of coping with less water and to spread the effects of these events beyond the audience who attended the event. This is important as a strategy in getting information to the 'hard to reach' people those, we had been told, who were unlikely to attend community events (Smith & Campbell 2009: 539). The relatively small proportion of articles about the political/regulatory environment could suggest that the newspaper assumes readers' familiarity with the regulatory environment, or simply a lack of news on the issue.

While water scarcity is a dominant problem of the communities that make up the readership of the *Buloke Times*, it would appear that the newspaper's authors give it some prominence, but do not make it the overwhelming content. The month of February, in particular, was dominated by water scarcity articles and perhaps this could be attributed to the fact that February is traditionally the driest

month and would constitute a time of major concern for the local communities. The social impact of dryness would also be felt most in February when the heat could not be alleviated through the use of more water. The following months see a significant drop in the number of articles, with, in April, the unusual situation where two newspaper issues contained no articles about water scarcity (none in a total of 55 articles).

When we look at the ‘clumping’ of themes, it is not significant that three themes were clumped in February, since this month had the highest percentage of content of water issues/scarcity articles. There was, however, a minor clumping of the ‘reports of educative events’ theme across four issues in April. Nearly half of all of the reports of educative events themed articles across the three months occurred in those four issues. It is possible that these articles, and the events which they report, were timed to coincide with the sowing season, encouraging farmers to think about the crop varieties, fertiliser use and sowing techniques.

Looking at the prominence of the issue, only eight of the 68 articles on water scarcity were on the front page, around 12%. Of the total number of articles published across the three months ($N=534$), this represents about 1%. It seems at first glance surprising that such a prominent world-wide issue, water scarcity, is not featured more strongly, particularly as it was at the time having such devastating effects on the local community. One possible explanation is that this region of Victoria is considered dry land country—water has always been scarce. Another explanation is the ‘fatigue’ in the community with the issue; it was perhaps judged that people wished to read about other matters which were more positive, particularly on the front page of the newspaper.

The front-page articles provide, however, another interesting insight. Four of these eight front-page articles were predominantly about

a particular farmers' development group and its activities. This is a strong local subscription-based organisation which provides information and support to local farmers through activities for its members but also for the wider community (Smith & Campbell 2009: 531). Previous research by Olien et al. (1995) stated that analysis of the content of a local newspaper can illustrate who holds power within the community and the degree to which power is concentrated within different groups. When considering the *Buloke Times*, we can see that the paper does in fact favour this local organisation and places its articles to the front of the paper. This not only ensures that readers see the articles as being of greater importance, but also ensures that the local organisation is considered the primary source of credible information. The newspaper appears to be favouring one particular local group and may be influencing the way the community sees that group as well as reflecting the traditional local power structures.

Conclusion

Through consideration of the data and their analysis, we can attempt to answer our original research question: to investigate how the paper covered the issue of drought and coping with it, and what contribution the newspaper might make to people's learning about the issue.

In general, across the three months of the collection of the articles, while the percentage content did vary, it would be accurate to say that water scarcity and related aspects were significant for the readers of the *Buloke Times*. We can also add that the newspaper was mirroring the concerns and values of the community (Holder & Treno 1997).

In our discussion, we identified several factors relating to the newspaper and its role in the community. In its content, we believe that the newspaper is reflecting the value the community places on

the issue of water scarcity. Its coverage was intense in the month when water scarcity would be expected to be one of the dominant local issues, but fell away again as time progressed. The articles tended to focus on positive stories rather than negative ones, reflecting the community's need for improvements in morale.

The other factor indicated by the research was the issue of power. As discussed earlier, some researchers (e.g. Cohen 2000) maintain that local journalists often frame articles in ways that reflect traditional power structures. Mosco (1998) stated that '[c]ommunity media can ... highlight the strength of particular groups within the community as well as disenfranchise others'. The number of articles relating to the farmers' development group and its activities was far greater than any other single group. It is unclear which groups may have been disenfranchised but certainly other groups in the community, such as Landcare groups, did not receive the same publicity. Not only did the newspaper highlight particular groups, but through consistent coverage may in fact have acted 'as brokers of power, negotiating who is to be empowered and who is not' (Olien et al. 1995). By promoting the activities of the group, the newspaper may have been enhancing its status within the community, and assisting in the development of the group, perhaps, but not necessarily, to the detriment of other organisations.

What contribution might the newspaper make to people's learning about the issue, and even to changing behaviour? By looking at the grouping of the articles on water scarcity, we can see that the newspaper has taken on a significant role of 'informer'. A large percentage of the articles were educative, providing information on outcomes of projects of local interest, reporting on the activities of community groups and also providing instances where the newspaper provides the 'mouthpiece' for bodies or individuals to instruct the reader. However, better information does not necessarily lead to behaviour change (Marx et al. 2008). Our broader research in the

community indicated that there was differential access to several types of learning activity among groups and individuals in the community (Smith & Campbell 2009), so clearly any educative outlet is helpful in adding to the mix of available learning activities.

We recognise the limitations of the research undertaken on the newspaper collection. How content is interpreted or whose perspective or 'partyline' is being considered, cannot form part of this paper, apart from recognising through the analysis whether particular groups were being privileged in some way. The content analysis as performed in this study cannot make statements about the effects of the articles on the audience (Wimmer & Dominick: 139). For that information, we would need to survey the readership or undertake interviews with individual and groups within the community that focus specifically upon the ways in which they use the newspaper to learn. Different members of the community would be likely to process the information differently (Fleming et al. 2006). However, a strength of the research is the prior fieldwork undertaken in the community so that in our interpretation we are able to draw upon the understandings of the community and its concerns gained through that research. For example, in the prior fieldwork, we found that most of those interviewed tended to hold the farmers' development group as the single most expert source of information for farmers. This was confirmed through the newspaper analysis, where articles from this group were placed closest to the front of the newspaper.

In terms of our classification of the totality of learning strategies about water scarcity and being drier in the case study (Smith & Campbell 2009: 537), learning from newspapers falls within the category, 'Individual learning through the receipt of provided information'. However, learning from newspapers both feeds into and feeds upon most of the other categories: for example, the *Buloke Times*' articles in the theme 'reports of educative events' report upon learning events from the categories 'community activity' and 'farmers'

development groups'. Hence the learning opportunities could be said to work in an iterative manner. This could be seen generally as productive, although it could also reinforce exclusion as discussed above.

It is possible to identify some contributions of this small research project. To our knowledge this is the first paper which uses newspaper content analysis to explore the issue of how a drought-stricken community copes with the drought. More generally, we believe our categorisation of learning-related content in newspapers is unique, and could be applied to the educative role of a local newspaper about other issues of community concern, not just drought. We believe that the structured approach developed in this paper could be of use to local newspapers in enabling them to reflect on their educative role, and to community groups and other organisations who seek to educate members of their communities more effectively on issues of concern.

Appendix—Expanded Table 2: Overview of articles relating to relative importance and prominence

Issue 2009	Number of articles [†]	Percentage of coverage	Story prominence (location)*	Article theme
Tuesday 3 February	2 from 27	7.4	Article 1: p.9 Article 2: p.13	Article 1: Outcome Article 2: Outcome
Friday 6 February	4 from 19	21	Article 1: p.6 Article 2: p.6 Article 3: p.9 Article 4: p.13	Article 1: Political/regul'y Article 2: Outcome Article 3: Educational Article 4: Political/regul'y
Tuesday 10 February	7 from 12	58	Article 1: p.2 Article 2: p.9 Article 3: p.10 Article 4: p.10 Article 5: p.10 Article 6: p.12 Article 7: p.16	Article 1: Miscellaneous Article 2: Miscellaneous Article 3: Reports of educational events Article 4: Outcome Article 5: Educational Article 6: Educational Article 7: Political/regul'y
Friday 13 February	5 from 19	26	Article 1: p.2 Article 2: p.? Article 3: p.? Article 4: p.7 Article 5: p.11	Article 1: Reports of educational events Article 2: Outcome Article 3: Miscellaneous Article 4: Reports of educational events Article 5: Outcome
Tuesday 17 February	7 from 14	50	Article 1: pp.1–2 Article 2: pp.1–2 Article 3: p.3 Article 4: p.3 Article 5: p.8 Article 6: p.9 Article 7: p.12	Article 1: Outcome Article 2: Educational Article 3: Miscellaneous Article 4: Miscellaneous Article 5: Outcome Article 6: Educational Article 7: Educational
Friday 20 February	0 from 20	-	n/a	n/a
Tuesday 24 February	2 from 17	11.8	Article 1: p.9 Article 2: p.9	Article 1: Outcome Article 2: Miscellaneous

Issue 2009	Number of articles †	Percentage of coverage	Story prominence (location)*	Article theme
Friday 27 February	5 from 21	23.8	Article 1: p.1 Article 2: p.4 Article 3: p.6 Article 4: p.7 Article 5: p.10	Article 1: Educational Article 2: Miscellaneous Article 3: Educational Article 4: Educational Article 5: Reports of educative events
Tuesday 3 March	3 from 18	16.6	Article 1: p.7 Article 2: p.7 Article 3: p.15	Article 1: Educational Article 2: Miscellaneous Article 3: Outcome
Friday 6 March	1 from 22	4.5	Article 1: p.12	Article 1: Educational
Wednesday 11 March	1 from 28	3.6	Article 1: p.9	Article 1: Miscellaneous
Friday 13 March	2 from 14	14.2	Article 1: p.6 Article 2: p.7	Article 1: Political/regul'y Article 2: Miscellaneous
Tuesday 17 March	3 from 14	21.4	Article 1: p.2 Article 2: p.10 Article 3: p.11 Article 4: p.11	Article 1: Reports of educative events Article 2: Miscellaneous Article 3: Educational Article 4: Educational
Friday 20 March	4 from 16	25	Article 1: pp.1–2 Article 2: p.3 Article 3: p.9 Article 4: p.11	Article 1: Reports of educative events Article 2: Educational Article 3: Outcome Article 4: Reports of educative events
Tuesday 24 March	0 from 22	-	n/a	n/a
Friday 27 March	1 from 23	4.3	Article 1: p.2	Article 1: Outcome
Tuesday 31 March	0 from 33	-	n/a	n/a
Friday 3 April	3 from 33	9	Article 1: p.2 Article 2: p.6 Article 3: p.19	Article 1: Outcome Article 2: Miscellaneous Article 3: Outcome

Issue 2009	Number of articles †	Percentage of coverage	Story prominence (location)*	Article theme
Tuesday 7 April	1 from 25	4	Article 1: p.13	Article 1: Educative
Thursday 9 April	1 from 21	4.8	Article 1: p.11	Article 1: Political/regul'y
Friday 17 April	5 from 34	14.7	Article 1: pp.1–2 Article 2: p.1 Article 3: p.2 Article 4: p.10 Article 5: p.12	Article 1: Political/regul'y Article 2: Reports of educative events Article 3: Outcome Article 4: Outcome Article 5: Outcome
Tuesday 21 April	3 from 22	13.6	Article 1: p.10 Article 2: p.10 Article 3: p.15	Article 1: Educative Article 2: Reports of educative events Article 3: Reports of educative events
Friday 24 April	3 from 16	18.8	Article 1: p.1 Article 2: p.6 Article 3: p.9	Article 1: Outcome Article 2: Reports of educative events Article 3: Reports of ducative events
Tuesday 28 April	1 from 28	3.6	Article 1: p.10	Article 1: Reports of educative events
Friday 1 May	3 from 16	18.8	Article 1: p.1 Article 2: p.6 Article 3: p.9	Article 1: Educative Article 2: Outcome Article 3: Miscellaneous

† Articles excluded from count were classifieds, sport-related stories, advertisements and television guides

* Story prominence was based on a model suggested by Riffe et al. (1998)

References

- Birchip Cropping Group (BCG) (2008). *Farm-level adaptation options: Wimmera-Mallee*, Wimmera-Mallee: Birchip Cropping Group.
- Carlson, S. & Maxa, S. (1998). 'Pedagogy applied to non-formal education', *The Center*, retrieved 3 October 2009 from www.fourh.umn.edu/resources/center/PDF/center-story9.pdf
- Cohen, J. (2000). 'Group identity: The case of synagogue pamphlets', *Rhetoric and Public Affairs*, 32: 247–275.
- CSIRO Technical Report (2007). http://www.climatechangeinaustralia.gov.au/technical_report.php
- Demers, D. & Viswanath, K. (eds.) (1999). *Mass media, social control, and social change: A macrosocial perspective*, Ames: Iowa State University Press.
- Doolittle, P.E. & Camp, W.G. (1999). 'Constructivism: The career and technical education perspective', *Journal of Vocational and Technical Education*, 16(1), online version, retrieved 3 October 2009, from <http://scholar.lib.vt.edu/ejournals/JVTE/v16n1/doolittle.html>
- Fleming, K., Thorson, E. & Zhang, Y. (2006). 'Going beyond exposure to local news media: An information processing examination of public perceptions of food safety', *Journal of Health Communication*, 11(8): 789–806.
- Grabe, M., Kamhawi, R. & Yegiyani, N. (2009). 'Informing citizens: How people with different levels of education process television, newspaper and web news', *Journal of Broadcasting & Electronic Media*, 53(1): 90–111.
- Golding, B., Brown, M., Foley, A., Smith, E., Campbell, C., Schulz, C., Angwin, J. & Grace, L. (2009). 'Wicked learning: Reflecting on Learning to be drier', *Australian Journal of Adult Learning*, 49(3): 544–566.
- Holder, H. & Treno, A. (1997). 'Media advocacy in community prevention: News as a means to advance policy change', *Addiction*, 92 (Supplement 2): S189–S199.
- Jeffres, L.W., Atkin, D. & Neuendorf, K.A. (2002). 'A model linking community activity and communication with political attitudes and involvement in neighborhoods', *Political Communication*, 19(4): 387–421.
- Kilpatrick, S., Falk, I. & Harrison, L. (1998). 'Learning in rural communities: A response to rapid economic change: CRLRA Discussion Paper Series, Paper D13/1998', Launceston: Centre for Research and Learning in Rural Australia, University of Tasmania.

- Knowles, M.S., Holton, E.F. & Swanson, R.A. (1998). *The adult learner: The definitive classic in adult education and human resource development* (5th ed.), Woburn, MA: Butterworth-Heinemann.
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology*, Thousand Oaks, CA: Sage Publications.
- Kurpius, D. (2000). 'Public journalism and commercial local television news: In search of a model', *Journalism and Mass Communication Quarterly*, 77(2): 340–354.
- Marsick, V. & Watkins, K. (1990). *Informal and incidental learning in the workplace*, London: Routledge.
- Marx, J., Nedelmann, M., Haertle, B., Dietrich, M. & Eicke, B. (2008). 'An educational multimedia campaign has differential effects on public stroke knowledge and care-seeking behaviour', *Journal of Neurology*, 255(3): 378–384.
- Merriam, S.B. & Caffarella, R.S. (1999). *Learning in adulthood: A comprehensive guide*. San Francisco: Jossey-Bass.
- Mosco, V. (1998). 'Myth-ing links: Power and community on the information highway', *The Information Society*, 14(1): 57–62.
- Moses, M. (2007). 'The media as educators, educational research, and autonomous deliberation', *Peabody Journal of Education*, 82(1): 150–165.
- Olien, C.N., Donohue, G.A. & Tichenor, P.J. (1995). 'Conflict, consensus and public opinion', in Glaser, T.L. & Salmon, C.T. (eds.), *Public opinion and the communication of consent*, New York: Guilford: 301–322.
- Riffe, D., Lacy, S. & Fico, F. (1998). *Analyzing media messages: Using quantitative content analysis in research* (2nd ed.), Malwah, NJ: Lawrence Erlbaum.
- Sakamoto, K. (1999). 'Reading Japanese women's magazines: The construction of new identities in the 1970s and 1980s', *Media, Culture and Society*, 21: 173–193.
- Schulz, C. (2001). 'Lifelong learning for farmers: The changing world of agriculture', Masters research paper, Deakin University.
- Smith, E. & Campbell, C. (2009). 'Learning to be drier in dryland country', *Australian Journal of Adult Learning*, 49(3): 520–543.
- Victorian Government Department of Sustainability and Environment (2008). *Climate change in the Mallee*, Melbourne: Victorian Government Department of Sustainability and Environment.
- Wimmer, R. & Dominick, J. (2000). *Media research: An introduction*, Belmont, CA: Wadsworth.

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